

## **REMARKS**

This RCE is responsive to the final Office Action dated March 7, 2003 in which the Examiner rejects all the pending claims as being obvious over combinations of Corona (US Patent No. 5,316,279), Barnes ("10 Minute Guide To Windows 3.1", SAMS, 1992), Warmus et al (US Patent No. 6,327,599) and Ikenoue et al (US Patent No. 5,987,127). The applicant has made minor amendments to the claims so as to perfect the claim language, and respectfully traverses the rejections of the Examiner as explained in detail below.

The present invention teaches a novel document generation software tool which can change the format and/or add additional content to a document to be printed. In particular, as taught by the present invention, the inventive tool comprises means for intercepting data in a document which is being sent to a printer from a print spool, and means for using such intercepted data as an index key to access a database for obtaining other and/or additional information relevant to such data (as defined expressly in similar language in all independent claims 1, 5, 10, 11 and 15). Based on the other/additional information obtained from the database, the document can be printed in a different format (claims 1, 2, 5, 6, 7, 16, 17, 18), with different additional contents (claims 3, 8, 9, 10, 13, 14, 15, 18), and/or with a portion of the original data unprinted (claims 11 and 12).

One important distinguishing feature of the present invention is means for intercepting the data from the print spool, as expressly defined in all independent claims 1, 5, 10, 11 and 15. Thus, the data is intercepted after it arrives from the print spool. As explained in the original Specification, with this novel and inventive feature, from the point of view of the software applications which have sent the original data to the printer, the print spool is feeding its data directly to a printer (page 2, lines 13-15). In other words, the software applications which have sent the original data to the print spool talk to the print spool as usual, and are unaware that the data, after it arrives the print spool, will be intercepted and further processed by the software tool of the present invention before it is finally

printed by the printer. As clearly shown in Figure 1, the reformatting software 102 for intercepting the data from the print spool, which stands between the print spool and the printer, does not communicate with the software applications that have sent the data to the print spool. Thus, no modification to the software applications is needed. Instead, with proper design and/or configuration of the document formatting software tool of the present invention, the inventive software tool can work with specific or various software applications without modification to the applications.

Another distinguishing feature is that the intercepted data is utilized as an index key to access a database for other and/or additional information, which is also expressly defined in all independent claims 1, 5, 10, 11 and 15. An index key is an intrinsic element of the database, which is solely defined and determined by the structure of the database. Therefore, because the intercepted data is utilized as an index key of the database, the original data is not required to include a hint or instruction regarding the other/additional information in the database that is to be looked-up by the software tool of the present invention.

The above feature is particularly advantageous over the prior art in which an original document includes information or instructions related to the location or destination of the additional content in the database (e.g., as in Warmus patent). With the present invention, the software application that sends the original document/data to the print tool can work as usual, without knowing the index key system of the database or any processing of the data after it is sent to the print spool. Instead, all the design and/or modification required by the indexing system of the database is made to the software tool of the present invention, without a modification to the software applications that provides the original data.

Another distinguishing feature of the present invention is that, based on the other information obtained from the database, the document will be printed in a format different from the original format as received from the print spool, as expressly defined in claims 1, 5 and 16. In other words, the

other information obtained from the database comprises instructions to reformat the document/data before sending it to the printer. Importantly, the reformatting instructions are obtained from the database, and the software application that has sent the original document to the print spool is unaware of any such reformatting instructions or processes. For example, with the present invention, the document may be printed in multiple copies even though only one copy was received from the print spool (claims 2, 6, 17, 18), or the document may be printed in double-side format even though the original document was a one-sided format (claim 7).

A further distinguishing feature is that, based on the other information obtained from the database, only a portion of the original data is included in some generated documents (claim 11). In other words, not all the original data are included in all the generated documents. In particular, according to the other information or instructions obtained from the database, a confidential portion of the original document is not included in one or more of the generated documents, thus will not be printed out in these copies (claim 12). This is particularly useful to automatically print both confidential and non-confidential copies of the same document, with the confidential contents only included in the confidential copies.

The applicant respectfully disagrees with the assertion of the Examiner that the present invention as claimed is obvious over the cited patents/references. In particular, the applicant does not believe the above explained distinguishing features are taught or implied in any of the cited prior art, as explained in more detail below.

First of all, the applicant is fully aware that a print spool is a common element in a print system, which temporarily saves data in a job queue before forwarding it to the printer, such as the print manager spooler in the cited Barnes reference. However, as noted by the Examiner, none of the Corona, Ikenoue and Warmus patents mentions a print spooler. Thus, it can not be found anywhere in the three cited patents a teaching or implication to intercept the data from the print spool.

In particular, Corona (US Patent No. 5,316,279) discloses a printing system for printing job set identifying indicia on cover sheets that are automatically inserted between the printed job sets. Such identifying indicia “can include either or both a printer-user (job generator) identifier and a specific job identifier, such as the subject title and/or data and/or job number of the document, and/or the number of pages, and/or the number of copy sets being made, etc” (col. 7, lines 38-44). Inherently, all this information is provided by the software application which generates the print job set and sends it to the printer. Unlike the present invention in which the other/additional information is obtained from a database by using intercepted data as an index key, in Corona, the additional information is provided by the job generator and available to the print spool when the print job arrives at the print spool. Therefore, the applicant believes that there is no inherent need in Corona to intercept data from the print spool so as to obtain the additional information from a database.

Ikenoue (US Patent No. 5,987,127) discloses a copy management system in which additional data is embedded in the image for copy management, such as for preventing illegal copying of the confidential image, or for docketing and tracking the illegal copying. There is no teaching or implication in Ikenoue to intercept the original data from the print spool so as to obtain the additional data from a database. In fact, as disclosed in Ikenoue, the additional data is either provided by the source (such as intrinsic data including document name, book code, etc), or added from the previous copying process irrespective of source (such as common data including user name, data, etc,) (see col. 5, line 49 – col. 6, line 32). Unlike the present invention in which the other/additional information is obtained from a database by using the intercepted data as an index key, in Ikenoue, the additional data is available from the source and/or the previous copying process, and therefore is available when the print job arrives at a print spool. Thus, the applicant believes that there is no inherent need in Corona to intercept data from the print spool when the image processors produce a hard copy.

Walmus (US Patent No. 6,327,599) discloses a technique to create different versions of books,

each of which comprises both common “fixed information” and different “variable information”. The variable information is obtained from a database 108 according to data specifying the entries in the database. There is, however, no teaching or implication in Walmus to intercept data from the print spool so as to obtain the variable information from a database. To the contrary, as disclosed in Walmus, the available information is obtained from a database 108 to create variable page files 134, 136 before these files are sent to the print system 71, 79. It may be further noticed that the press command file 140 is provided after the variable page files 137, 138 (PDF format of files 134, 136) is created (as most clearly shown in Figure 5, and described in col. 8, lines 52-65). Thus, there is no need in Walmus to intercept the data from the print spool after a print command is sent.

Therefore, none of Corona, Ikenoue or Walmus teaches or implies to intercept data from the print spool, as defined in all independent claims 1, 5, 10, 11 and 15. Thus, the applicant believes that these independent claims are patentable at least for this distinguishing feature.

Moreover, the applicant respectfully disagree with the assertion of the Examiner that the cited references have disclosed using the intercepted data as an index key to access to a database for other/additional information. In both Corona and Ikenoue, as explained above, the additional information is provided by the software application that created the job set (in Corona) or from the source and/or the previous copying process (in Ikenoue), but not from a database. In fact, no database is used in either Corona or Ikenoue. Barnes talks nothing about acquiring information from a database, too. Walmus does disclose to create the variable page files 134, 136 from intermediate page files 130, 132 by adding variable information obtained from a database 108. To do so, the intermediate page files 130, 132 includes not only “area data” defining the area where the variable information is to be produced, but also data identifying the entries in the database 108 to be placed in the area. Therefore, the original data has to include information identifying the entries in the database. In other words, the data itself, but not data intercepted by a software tool, is utilized as the index key to access the

database. As explained in detail above, because the original data has a direct link to the database, this is disadvantageous because the original data (and therefore the software application generating the data) has to consider the indexing system of the database. While in the present invention, intercepted data (but not the original data) is utilized as an index key to access the database, thus it is the software tool (reformatting software 102) but not the software application or document that provides the original data to be intercepted, that has to consider the indexing system of the database. Advantageously, any design or modification required by the database indexing system will be done to the software tool that intercepts the data, but not to the software application or documents that provides the data.

Therefore, the applicant believes none of the cited references (including Walms patent) teaches or implies to utilized intercepted data from the print spool as an index system to access the database, as defined in all independent claims 1, 5, 10, 11 and 15. Thus, the patentability of these claims is further strengthened because of this distinguishing feature.

Independent claims 1 and 5, as well as dependent claim 16, further define a distinguishing feature that, based on the other information obtained from the database, the document will be printed in a format different from the original format as received from the print spool. The applicant can not find this distinguishing feature in any of the cited references. As explained above, none of Barnes, Corona and Ikenoue talk about obtaining other/additional information from a database. Thus, no teaching on “other information obtained from the database” can be found in them. In addition, no change or difference in format is disclosed or discussed in any of these three cited references. Walms does teach to obtain variable information from a database and does disclose reformatting of a files 134, 136 into PDL format files 137, 138 (col. 8, lines 62-65). However, there is no teaching that such reformatting is based on the variable information obtained from the database. In fact, there is no teaching or implication in Walms that the database provides any information related to reformatting

of a file. Therefore, the applicant believes the patentability of claims 1, 5 and 16 is further strengthened because of this distinguishing feature which can not be found in any of the cited references.

Claim 11 further defines that, based on the other information obtained from the database, only a portion of the original data is included in some generated documents (claim 11). The applicant can not find this feature in any of the cited reference. In Barnes, Corona and Ikenoue, in addition to the missing feature “based on the other information obtained from the database” as explained in the above paragraph, there is no teaching that “only a portion of the original data will be included in some generated documents”, either. Walms does disclose to generate two stripped files – a master page file 120 and a variable page files 126 – from the same template file 106, each of which includes only a portion of the original data in the template file 106. However, this is not done based on the information obtained from the database (see, e.g. Figure 5 and col. 8, lines 16-56). Therefore, the patentability of claim 11 is further strengthened by this distinguishing feature.

Each of independent claims 1, 5, 10, 11 and 15 includes at least two or more of above four distinguishing features, and is therefore believed patentable. At least for the same reasons, their dependent claims 2-4, 6-9, 12-14 and 16-18 are also patentable. In particular, Claim 12 further defines that such a confidential portion of original data is not included in one generated document but included in another generated document. This is not disclosed in any of the cited references. Ikenoue does discuss prevention of illegal copying by recognizing the additional information embedded in the image, but it does not teach to generate two documents, one of which only includes non-confidential data while the other includes all data. Thus, the patentability of claim 12 is further strengthened for this distinguishing feature.

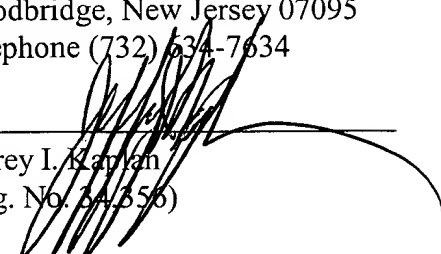
The applicant therefore respectfully requests reconsideration and allowance in view of the above remarks and amendments. The Examiner is authorized to deduct additional fees believed due

from our Deposit Account No. 11-0223.

Respectfully submitted,

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal service as first class mail, in a postage prepaid envelope, addressed to Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on June 17, 2003.

Dated June 17, 2003 Signed Fern Pekarofski Print Name Fern Pekarofski



**MARKED-UP VERSION OF THE AMENDED 1, 2, 5, 6, 8, 10-15**

1. (Four Time Amended) A document formatting tool comprising:

means for intercepting data in a document which is being sent to a printer from a print spool;

means for utilizing a specified portion of such intercepted data as [a] an index key to access a database for obtaining other information relevant to such data; and

means for printing such data in a format different from that in which it was received from said print spool, such difference being based upon said other information received from the database.

2. (Four Time Amended) The tool according to claim 1 wherein said [difference] other information includes instructions for generating multiple copies of said document even when only one copy of said [data] document was received from the print spool.

5. (Thrice Amended) A document formatting tool comprising:

means for intercepting data in an original [format] document which is being sent to a printer from a print spool;

means for utilizing a specified portion of such intercepted data as [a] an index to a database for determining other information relevant to such data;

means for generating a new document comprising said data in a new format different from said original format based upon said other information determined from the database.

6. (Twice Amended) The document formatting tool of claim 5, wherein said difference in format is that said new document comprises multiple copies of said [data] original document.

8. (Twice Amended) The document formatting tool of claim 5 wherein said new

document further comprises additional content acquired from said other information.

10. (Thrice Amended) A document generating tool comprising:

means for intercepting original data in a document which is being sent to a printer from a print spool;

means for utilizing a specified portion of such intercepted data as [a] an index key to a database for determining additional information relevant to such data; and

means for generating multiple documents each comprising said original data as well as additional data from said additional information, wherein said additional data is different in each of said multiple documents.

11. (Thrice Amended) A document generating tool comprising:

means for intercepting original data in a document which is being sent to a printer from a print spool, said original data comprising a first portion and a second portion; means for utilizing a specified one of said portions of such intercepted data as [a] an index key to a database for obtaining other information relevant to such data; and means for generating at least two documents based on said determined other information, one comprising both portions of said original data, while the other only comprising said first portion of said original data.

12. (Previously Added) The document generating tool of claim 11, wherein said second portion is a confidential portion of said original data.

13. (Twice Amended) The document generating tool of claim 11, wherein at least one of said generated documents further comprises additional content acquired from said database.

14. (Twice Amended) The document generating tool of claim 11, wherein each said generated document has different additional content from each other acquired from said database.

15. (Amended) A method for formatting a business document, comprising the steps of:

(c) sending from a source to a [printer] print spool information that comprises

an identification segment and a content segment;

(d) intercepting the information before it reaches [the] a printer ~~from the print~~  
~~spool~~;

(c) parsing the identification segment;

(h) utilizing the identification segment as an [indexing] ~~index~~ key for accessing a database;

(i) acquiring from the database data having first and second defined portions that are  
related to the identification segment;

(j) printing the content and a first defined portion of the data in a first document; and

(k) printing the content and a second defined portion of the data in a second document.